



Thermal deaerator – standard modules up to 40 m³/hour

Reliable and efficient deaerator which is suitable for steam boilers, supplied complete with armature, and which can be supplied with insulation.

Application

A thermal deaerator is used for treatment of feed water for steam boilers. The feed water should not contain oxygen due to the fact that as long as oxygen is present in the water, corrosion will appear. If there is no oxygen present in the water, there will be no corrosion. The oxygen is supplied with the make-up water normally containing 8 – 10 mg/l. After treatment in a thermal deaerator, the oxygen content is reduced to less than 0.05 mg/l

In general

When the water is heated, the dissolved gases are liberated. If the temperature is raised sufficiently, the gases are

practically insoluble. Whether the heating takes place under vacuum or under pressure is in principle a secondary matter. Since an unproblematic operation with steam boilers demands a high and constant temperature, the thermal deaerator works at an excess pressure of 0.2 bar, which corresponds to a boiling point of 104 °C. Hereby, the discharge of the dissolved gases is increased, as the viscosity of the water is decreased at an increasing temperature.

Theory of operation

The condensate and the make-up water are mixed so that a temperature of minimum 60 °C is obtained before it is led to

the top of the deaerator. A spray nozzle sprays the water in such a way that the gases can escape the layer surrounding every single water molecule. Steam is led to the bottom of the deaerator through a pressure-reducing valve, and steam injectors create the necessary turbulence in the water for an efficient deaeration. The escaped gases are led into the air through a gas vent with a restriction.

For more information

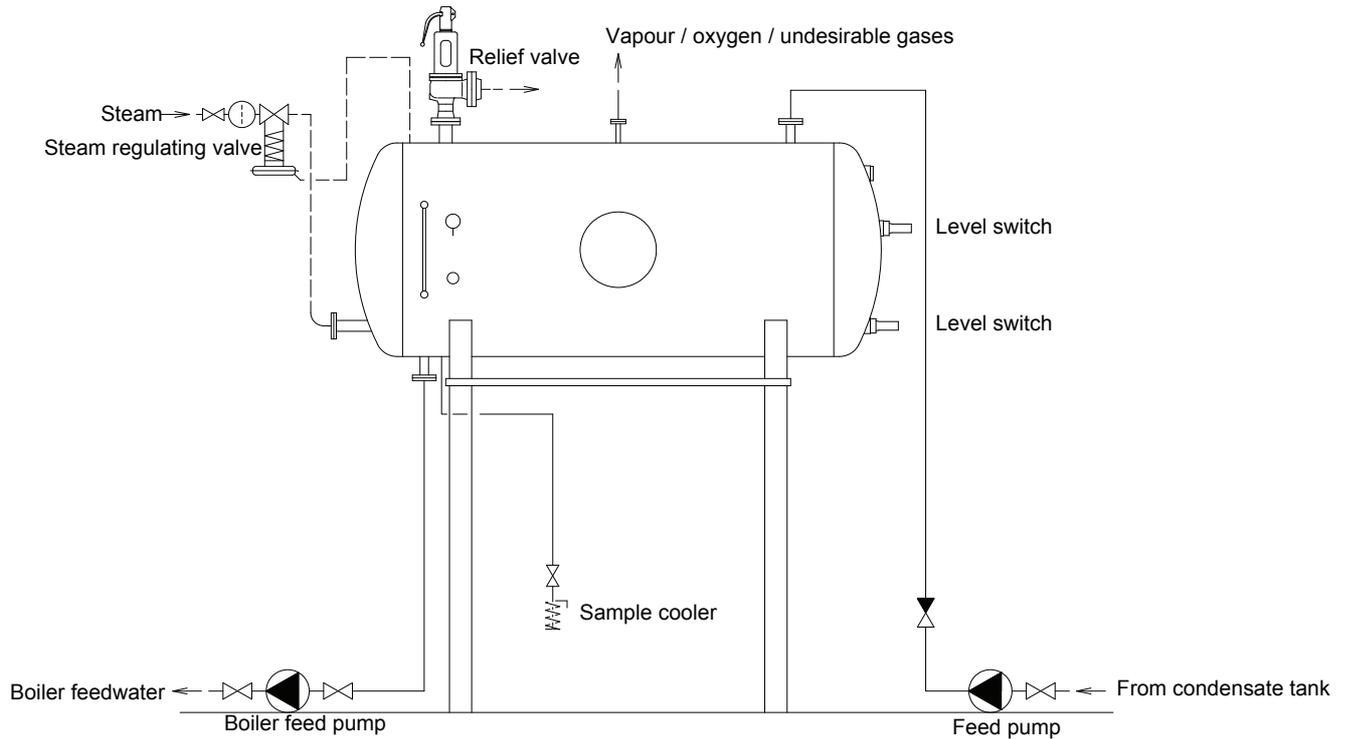
Please contact your local EUROWATER sales office.





Thermal deaerator

G15C-42A-Ukver3



Plant design

A EUROWATER thermal deaerator type C is constructed according to CE regulations and is CE marked. The deaerator is supplied complete with the necessary armature which comprises steam pressure reducing valve and relief valve, level control, water level indicator, thermometer, pressure gauge and sample valve with cooler. The deaerator tank is made of steel provided with efficient coating, which protects against corrosion. The deaerator can be supplied insulated with 100 mm mineral wool covered by a 0.75 mm aluminium plate.

Specifications

Module m ³	Total tank volume litre	Water volume ¹⁾ litre	Weight with water kg	Weight without water kg	Steam requirements ²⁾ kg/h
TA 2C	1,450	725	1,900	450	162
TA 3C	2,050	1,025	2,600	550	243
TA 4C	2,700	1,350	3,400	700	324
TA 6C	3,850	1,925	4,700	850	486
TA 8C	4,950	2,475	5,900	950	648
TA 10C	6,100	3,050	7,400	1,300	810
TA 12C	7,400	3,700	8,800	1,400	972
TA 15C	9,100	4,550	10,700	1,600	1,215
TA 20C	11,550	5,775	13,400	1,850	1,620
TA 25C	14,400	7,200	17,100	2,700	2,025
TA 30C	19,400	9,700	22,600	3,200	2,430
TA 40C	23,150	11,575	26,700	3,550	3,240

¹⁾ The figures show the water volume when the level switch is placed in the centre as standard. The level switch can, however, be moved to other positions – please ask your local EUROWATER sales office for further details.

²⁾ The table indicates the theoretical steam requirement (175°C at 8 bar excess pressure) for heating of make-up water (60°) to operating temperature (104°C). Process time: about 20 min.